GARDEN AND FOREST.

PUBLISHED WEEKLY BY

THE GARDEN AND FOREST PUBLISHING CO.

Office: Tribune Building, New York.

Conducted by . . . . . Professor C. S. Sargent.

ENTERED AS SECOND-CLASS MATTER AT THE POST-OFFICE AT NEW YORK, N. Y.

NEW YORK, WEDNESDAY, APRIL 8, 1896.

TABLE OF CONTENTS.

PAGE.

Editorial Articles:—Dangerous Enemies of Street Trees 141
Sowing White Pine Seed 142
Proposed Plan for Madison Square, New York. (With figures.) *M. G. Van Rensselaer.* 142
Foreign Correspondence:—London Letter ..... *W. Watson.* 144
Plant Notes:—Quercus Californica. (With figure.) ..... *Francis E. Lloyd.* 146
Cultural Department:—The Earliest Spring Flowers ..... *J. N. Gerard.* 146
Orchids at Langwater Gardens ..... *T. D. Hatfield.* 147
Bomareas ..... *N. J. Rose.* 147
Seasonable Flowers in the Cool Greenhouse ..... *Edward J. Canning.* 147
Clianthus Dampieri ..... *E. J. C.* 147
Hippeastrum Ackermanni ..... *T. D. H.* 148
Hardiness of Aspidistra lurida ..... *Joseph Meehan.* 148
Correspondence:—Nurseries at Bay Ridge ..... *M. B. C.* 148
Protection for a Public Interest ..... *Professor F. A. Waugh.* 149
Recent Publications 149
Notes 150
Illustrations:—Present Arrangement of Madison Square, Fig. 18 143
Suggestion for the Improvement of Madison Square, by E. Hamilton Bell and Daniel W. Langton, Fig. 19 143
Quercus Californica, in Oregon, Fig. 20 145

Dangerous Enemies of Street Trees.

HOW much the beauty and comfort of public highways, and especially of streets in towns and cities, are increased by a border of thrifty and symmetrical trees can be appreciated by those who have driven under the avenues of Live Oaks and Laurel Oaks in some of our southern towns and cities or beneath the long arches of Elms a century old which can be found occasionally in New England, and yet not one town or city in a hundred, take the country through, is able to show a row of street-trees of any considerable length which are what they ought to be. As we have often explained, mistakes are made at the very outset by selecting short-lived trees like the Sycamore Maple, or those which lack vigor like the European Ash, or others with brittle branches like the Ash-leaved Maple, or Poplars whose trunks are soon riddled by borers. And even when the proper kinds are selected no adequate care is taken to insure anything like wholesome growth by a proper preparation of the ground in which they are to stand, although there is no more excuse for planting a tree in imperfectly prepared soil than there would be for sowing wheat on an unplowed field. If the young tree has abundant food for its roots and room for its branches to spread, and is properly anchored until it gets firmly set, it probably is left unmulched, and therefore exposed to drought and changes of temperature, or it has no guard against the teeth of horses, no opening in the asphalt about its base to receive water, or it is mangled by some ignorant tree-trimmer and its wounds left bare to invite the rot fungus. The hopeless part of the case is that its natural protectors, the people about it, have no affectionate interest in it. They see it languish without any attempt to revive it. They do not consider one who wounds and bruises it a public malefactor.

No doubt, the way to insure satisfactory street-trees is to put the whole business in the hands of a skilled commission. There is no reason why a man should be allowed to select the tree to plant along the street before his house, or to plant it in his own crude way, any more than he should be permitted to build his own sewer or his own sidewalk to suit his personal whims. Where there is a commission of men who understand their work like those in Washington every tree is inspected before it is planted, so that specimens of even growth and similar shape are secured. They are then scientifically planted and cared for, and, more than that, they are systematically pruned, an operation which street-trees need above all others. Until the planting and care of these trees is considered an important municipal matter, like providing a water-supply, and one which as truly demands expert ability, the trees in our streets will be likely to excite commiseration rather than pride. Reformation in our city practice as to street-trees will come like other reforms, only after a strong public sentiment is enlisted in its favor.

Because there is no such sentiment—that is, because the trees have no active friends—they suffer from another cause which is one of the most serious dangers at present threatening them. Since the increased use of electricity, wires for telephones and trolleys are run through every village and almost every country road, so that no tree which stands on the public highway is out of danger from the axes of linemen. Occasionally some indignant citizen has mustered courage to bring these vandals into the courts, and in some cases exemplary damages have been secured, but the destruction seems to go on unchecked all over the country. In a late number of the *Michigan Cyclist*, Mr. Charles A. Garfield writes that a gang of telephone men utterly destroyed, with no apparent reason, the most beautiful Maple-tree in the southern part of the city of Grand Rapids. It had been trained and pruned into comeliness and had become a delight to every one who passed it, but in five minutes its beauty was destroyed forever. These marauders unloaded poles upon shrubbery and dug a hole for a post in the midst of a group of shrubs by the roadside, and when remonstrated with they replied that they thought this was wild brush which ought to be cleared away. This pole with its weight of wire stood at a street corner, and to make it steady, guy wires were wrapped about a noble Walnut which had been cherished for more than fifty years; its branches were cut and its trunk half-girdled. Professor Beal added that his experience corroborates entirely that of Mr. Garfield. Two fine White Oaks near him had half their tops cut away and the limbs were left where they fell. A thrifty young Elm and an elegant Beech, trees with trunks more than a foot in diameter, had most of the branches on one side cut away and reduced to stubs from one to six feet in length. Reports of this kind come from all parts of the country, and it is time that some associations like village-improvement societies or forestry associations should unite to try their rights before the law.

What is primarily needed in all such cases is a public sentiment which appreciates the value of a tree, for when the use and beauty of these wayside trees are thoroughly understood their owners will defend them as they will any other property. Meantime, the natural enemies of trees are increasing. The imported Elm-leaf beetle has become a pest of the first magnitude, and although we may expect that its ravages will be checked by natural causes after a time, this may not happen until many of our finest trees are killed, for certainly no tree can endure defoliation for several successive summers without loss of constitutional vigor and early death. Science has taught us how to meet these attacks as well as those of the tussock-moth, the bag-worm and other pests of this sort, and the matter has seemed so important that the Division of Entomology of the United States Department of Agriculture has issued a special circular on the subject in advance of a more complete article which is prepared for the Year Book of the department. There is no need of repeating here what has been frequently said about the necessity of spraying, the proper material to use, and the time of application. The serious question to be dealt with is the spraying apparatus, especially where there are large trees which are infested. Hand pumps have been used by the Gipsy-moth Commission of Massachusetts for trees in streets and parks, but since it is necessary to work rapidly to get over the trees just when the remedy will be most effectual a steam

apparatus would be altogether preferable. The most approved apparatus is described, but the special suggestion which will be most valuable for towns and cities is that an old steam fire-engine can be readily arranged for this spraying work among the shade-trees. Indeed, a steam fire-engine without any modification is a valuable aid against many kinds of insects which can be washed from the branches and foliage by the simple force of the water. But in cities of any size a fire-engine is occasionally retired, and a little work by a competent steam-fitter would transform it into an admirable insect destroyer.

If the city authorities refuse to do this work, coöperation by citizens can accomplish much. Private individuals cannot invest in an expensive apparatus for the few trees on their own grounds, and, therefore, combination is essential, and here, as this bulletin points out, is an opportunity for the new business of spraying at a given price for each tree. Mr. W. S. Bullard, of Bridgeport, Connecticut, has constructed several cart sprayers, and during the months of June and July he sprays the trees on the grounds of private individuals and along the streets in front of them under contract, guaranteeing to keep them in fair condition during the season. His work has been directed solely against the Elm-leaf beetle, the only insect of importance in Bridgeport, and last year any one driving through the streets of that city could easily pick out the trees which had been placed under his care. These were green, while others were brown and nearly leafless. Of course, if every owner of property or resident would agree to employ a tree-sprayer there would be no need of the coöperation of the city authorities, but some might be unwilling to do this.

After all, as we have repeated, the ultimate protection of the trees rests upon public opinion, and it is to this end the circular suggests the banding together of citizens in a tree-protectors' league. Last summer one of the Washington newspapers in every issue through the summer contained a coupon reciting briefly the desirability of protecting the shade-trees and enrolling every signer as a member of such a league, pledging him to do his best toward destroying the injurious insects upon the city's shade-trees adjoining his residence. If every household could be made to take a proper interest in this matter the work would be half done. What is needed is intelligent work at the proper time—the burning of the webs of the fall web-worm in May and June, the destruction of the larvæ of the Elm-leaf beetle about the bases of the Elm-trees in late June and July, the picking of the eggs of the tussock-moth in winter and equally simple operations for other insects when they become especially injurious. The subject is one worth the attention of the Agricultural Department, and we hope this paper prepared by Professor L. O. Howard will be widely read and heeded.

In a recent issue of *The American Cultivator*, Mr. J. D. Lyman, of Exeter, New Hampshire, describes a plantation of White Pine made about forty years ago in Enfield, Connecticut, by Omar Pease, one of the colony of Shakers which settled in that place toward the end of the last century. A sandy plain, which had been cropped with Corn and Rye until what little fertility it had ever possessed was exhausted so far as the production of profitable farm crops was concerned, was planted with the seeds of the White Pine. Two quarts of the Pine seed were mixed with rye or buckwheat sufficient to sow an acre of ground, the seed being scattered as if the crop of grain was the only object of the sowing. In this way from year to year, as Pine seed could be obtained, rather more than two hundred acres were sown. After the death of Omar Pease one of his fields, about forty acres in extent, covered with Pines a foot high, was plowed up in the belief that it would produce Rye more profitably than Pine-trees. Nothing has been done to the land since the seed was sown, and nothing has been done to the trees, which now cover something over one hundred and sixty acres. Omar Pease's good work ended with sowing the seeds. Neither he nor any of his successors have ever thinned the plantation, and Mr. Lyman finds many Pines growing in a space where there should be only one, and his belief is that the trees have made less growth than they would have, had the plantation been properly thinned from time to time. He adds:

In one place, selecting what appeared an average growth, I found ninety trees on four square rods, or 3,600 to the acre. Cutting what I thought an average tree I found, as nearly as I could judge by counting rings in stump and rows of limbs, that the tree was forty-three years from the seed. It was forty-nine feet high and seven inches in diameter at the stump. In another part of the plantation I found eighty-four trees to the square rod, or 13,440 to the acre. An average tree was here 2 8-10 inches in diameter at the stump and twenty-nine and one-half feet in height; as it had twenty-seven rows of limbs I concluded that it started from seed about thirty-one or thirty-two years ago. Properly thinned from time to time there would have been of these trees some four hundred to the acre and they would have been about eight inches in diameter at the stump and, perhaps, four or five feet taller. The first trees, instead of being seven inches in diameter, would, by proper thinning, have been about one foot.

It is a prevalent idea, supported by the results of many experiments, that it is a difficult matter to raise White Pines from seed sown in the open ground, the young seedlings of this tree being very susceptible to exposure to the full sun. Omar Pease, by demonstrating that poor, sandy land in New England can be seeded with White Pine as successfully and easily as it can with the far less valuable Pitch Pine, has rendered the country a service, and his plantations can, perhaps, be made to serve a valuable object-lesson for demonstrating the necessity of thinning young White Pine forests in order to secure the largest results in the shortest time.

Proposed Plan for Madison Square, New York City.

On another page are reproduced the plan of Madison Square, in this city, as it is to-day, and a plan for its rearrangement which was shown at the recent Architectural League Exhibition, by Messrs. Bell & Langton, landscape-architects.

Sixty years ago few buildings, except rural ones, stood north of Union Square, and the area now called Madison Square was an open tract some ten acres in extent, in the centre of which stood a House of Refuge for unruly boys—an altogether neglected and unsightly tract, of which the only useful feature was a little pond used for skating in the winter. When the House of Refuge burned in 1839, efforts were made to improve the place, but nothing substantial was accomplished until the mayoralty of James Harper, between the years 1844 and 1847. This was some ten years before Central Park was thought of, and although Downing had already done some of his best work, he had not yet laid out those urban squares in Washington which first showed American eyes what might be accomplished in this direction.

When studied on paper the plan of Madison Square shows the working of design, not of accident; yet its treatment is so petty and monotonous, so wanting alike in broad unity, in effective variety and in conspicuous points of interest, that, we believe, few New Yorkers realize that it has any plan at all. When seen from the encircling streets it has a pleasantly verdurous and shady look, and it contains some very good trees, an Elm which stands near its north-easterly corner, opposite the University Club, being the most symmetrical and beautiful tree which New York possesses south of Central Park. But its trees are not properly grouped—they are simply scattered about. Its lack of shrubs permits the surrounding houses to reveal themselves too clearly from all points of view, and deprives it of that charm of mystery, contrast and surprise which may be achieved even within very narrow limits if shrubberies are artistically employed. It affords no proper place for the display of flower-beds, and none for the proper placing of statues. The one virtue of the design is that those who wish to cross the park diagonally may do so with reason-

able directness. And its chief defect is that its many minor paths cut up its lawns so pitilessly that the eye nowhere rests upon a quiet, reposeful stretch of green.

Truly naturalistic schemes of park design are, of course, more difficult to manage well on a small than on a large scale; and they are not as appropriate as others when the architectural surroundings of the pleasure-ground are of an obtrusively urban sort. Therefore, Messrs. Bell & Langton have sensibly conceived their rearrangement of Madison Square upon semi-formal lines. It may appear that in drawing their main paths anew they have made diagonal circulation less direct; but measurements show that, if anything, they have shortened the diagonal courses. By suppressing the minor paths they have won space for wide lawns. Yet the accommodation for strollers and for playing children, and for rows of seats as well, which is lost in rightly been removed to a less conspicuous station and discreetly screened by foliage on all sides.

In explaining their design Messrs. Bell & Langton say that the improvements they suggest would be accomplished with "no sacrifice worth mentioning of the existing trees," while those that would necessarily be removed would be compensated for by their new central avenue. They point out that "the careful planning of the shrub-planting has isolated the formal centre" of their design from the noisy streets on all sides, although particular care has been taken to avoid interference with the cooling breezes so grateful in summer. "It would probably prove advisable in execution," they add, "to follow the accepted rule of utilizing a number of species, though we propose so to concentrate these as to make effective masses of one or two kindred species which blossom or fruit at the same

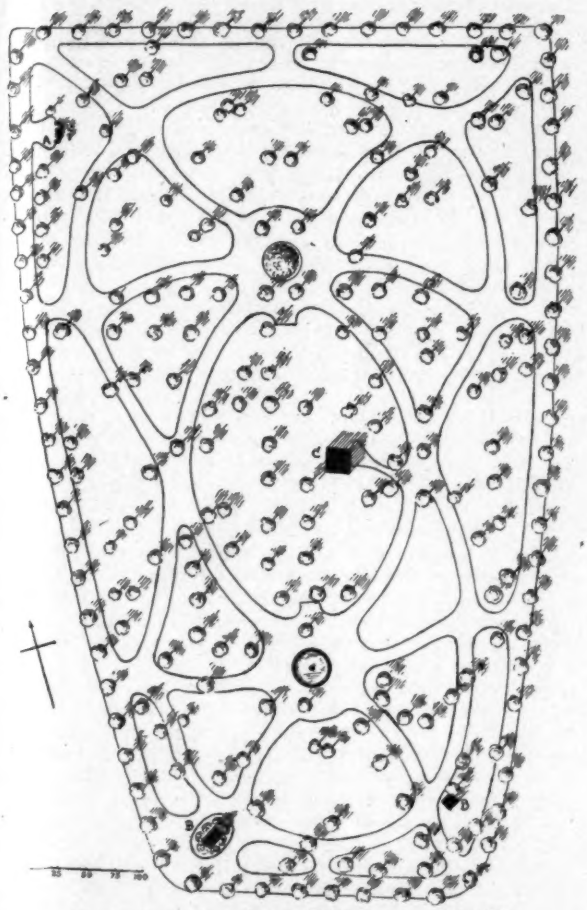

Fig. 18.—Present Arrangement of Madison Square, New York.

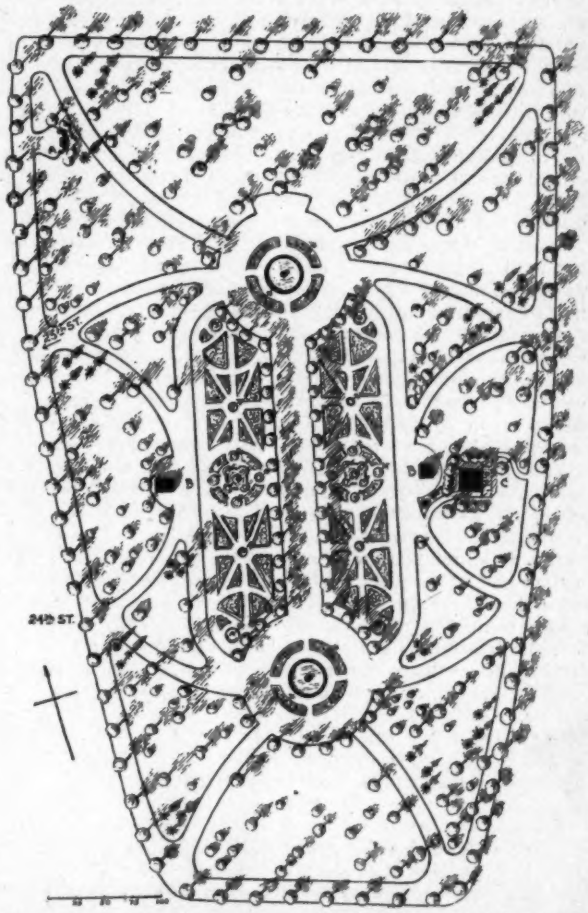

Fig. 19.—Suggestion for the Improvement of Madison Square, by E. Hamilton Bell and Daniel W. Langton.

this way, is more than made good by the broad mall which forms the central feature of their design, the two parallel paths which lie beyond its flanking flower-beds, and the large open circles which surround the basin that now exists, and the one which they indicate as balancing it toward the north. The formal flower-beds, thus properly conceived as important parts of a formal scheme, would be effective and delightful in themselves and would increase that beauty of general effect which they ruin when they are intruded into a purely naturalistic scheme. The Farragut Monument (A) is left in its present place, while its back is screened by shrubs, as was intended when it was built. The statues of Seward and Conklin (B, B), which now look as though they had been dropped down by accident, are properly incorporated with the more formal part of the pleasure-ground. The kiosk (C), a necessary convenience, has

season, thus providing a constant succession of attractive blossoming throughout the year. But a more satisfactory and artistic proceeding in a city like New York would be to treat the entire park as a unit, filling it with trees and shrubs all of which reach their prime of beauty at the same season. Thus, if Madison Square were so planted as to blossom in May, it might be made an object of enjoyment and pilgrimage not only to New Yorkers, but to the residents of the entire neighborhood. When this blossoming season was over, the flowers in the formal garden, set in the green park, would take up the succession and carry it through the year. One of the other parks might be so planned as to bloom later in the summer, and yet another to be at its prime in the autumn."

This is an interesting suggestion, yet there are some reasons against its adoption in a large and busy city like New

York. The pleasure of the majority should be chiefly considered. The majority of those who enjoy our small parks are the persons who have the habit of frequenting the same one day by day, or who pass it perforce in their daily round to and from their places of business, or whose windows look out upon it. And these people might—I do not say that they would—prefer to have their park display as many as possible of the beauties characteristic of each season in turn rather than to find it supremely attractive at any one season.

But, be this as it may, Madison Square would be improved for all seasons if it were rearranged according to Messrs. Bell & Langton's plan. This does not mean that the plan is faultless. In the first place, its authors were obliged to accept the trees as they stand instead of conceiving their plantations as an harmonious whole. Then, this fact puts difficulties in the way of shrub-planting; for, while many shrubs grow well under trees if they are planted when the trees are, and become well established before the ground is shaded, it is harder to induce them to thrive when set after the associated trees have attained their growth. And, finally, an actual mistake may be pointed out in the new plan: lawns which run to sharp points are undesirable in public pleasure-grounds because unruly feet are almost certain to trample upon these points, and also because the grass will dry out and the lawn-mower does not easily reach them. Nevertheless, considering the attendant difficulties, the plan is interesting. It is published here less with the idea that Madison Square may actually be renovated according to its indications than in the belief that a comparison of it with the existing state of the Square will be instructive to those charged with the arrangement of new small parks in this and other cities. Sometimes, even in small urban parks, conspicuous features may prescribe a naturalistic method of treatment. This was the case, for example, on Mount Morris Park, in Harlem, where the existence of a bold rocky hill, as tall as the surrounding houses, inspired the reservation of the tract around it. But such instances are very rare. As a rule, a formal or semi-formal manner of treatment, resulting in a pleasure-ground which is properly to be called a large garden rather than a park, must be most appropriate for restricted areas in the heart of a great city. And Messrs. Bell & Langton show that such a manner of treatment need not exclude variety in design, abundance of shade, the reposeful effect of wide green lawns, or even such seemingly unstudied, yet artistic, arrangements of trees, shrubs and grass as may produce pleasingly naturalistic impressions and illusions.

New York City. *M. G. Van Rensselaer.*

Foreign Correspondence.

London Letter.

Lissochilus cristatus.—This is a beautiful terrestrial Orchid in the way of Lissochilus Krebsii, and evidently as likely to thrive under artificial treatment as that species, hitherto the only one of the thirty species known that deserves to rank with good garden Orchids. L. cristatus was named by Mr. Rolfe on its first flowering at Kew in September, 1892, having been received from Uganda, where it was collected on the hills by Mr. Buchanan. It has lately flowered also in a garden in Liverpool and the scape has been sent to Kew. The pseudo-bulbs are ovoid, the leaves narrow, lanceolate, thick and somewhat fleshy, and about a foot long. The scape is erect, thirty inches long, and it bears ten flowers, each one and a half inches across; sepals small, dull purple; petals broadly oval, nearly an inch long, flat, purplish crimson in front, bright yellow behind; lip saccate, with a distinct spur; the mouth wide, the front lobe short, with prominent ridges, bright yellow, with a maroon-colored tip; column short, purplish, with a green apex. L. Krebsii grows and flowers freely at Kew in a warm greenhouse, and L. cristatus promises to do equally well under similar treatment. It is an Orchid which, if a few hundred plants were placed on the market, would secure ready buyers.

Cypripedium Sanderæ.—One thousand plants, recently imported, were sold by auction here last week under this "provisional" name. The description states that this is the best Cypripedium for cutting purposes ever introduced, and that from photographs and measurements received with the plants this species is believed to be far and away the largest of the genus yet discovered. Here is a description of the flower:

Dorsal sepal broadly spear-shaped, the basal portion, median line and veins a warm crimson-maroon, the central portion a clear canary-yellow tinged with green and with a broad margin of pure white. The lateral petals, disposed at right angles to the pouch and dorsal sepal, are of great breadth, much broader than in any other Cypripede we know of; most distinct and beautiful in color, the upper half of each petal is of the same color as the basal portion of the dorsal sepal, the lower halves being a clear yellow, slightly shaded in some instances with maroon. The pouch is unique in shape, being much narrower and more elongated than any other in the genus; in color it is yellow shading into ochre. Most beautiful and quite novel in shape.

I cannot identify this vague description with any known species of Cypripedium, unless it be an ally of C. villosum. The plants were in excellent condition, and we shall, no doubt, soon be in a position to judge whether it deserves all that the venders say of it. At the same time protest must be made against this growing practice with Orchid dealers of giving new names to plants on the chance of their proving new when they flower.

An importation of "a new and magnificent Cypripedium from the Malayan archipelago" was sold by auction this week. Is it likely that this is identical with the preceding? The collector in this case states that he discovered the plants in an island devoid of civilization, and that this "is certainly the grandest Cypripedium I have ever seen, and should prove one of the most sensational productions of late years." In this case the vender has omitted to give the plant a name.

Cœlogyne virginalis is still another "provisionally named" introduction of which a hundred plants were sold in London this week. It is described as a new species with large, well-shaped pure white blossoms in the way of C. cristata, and deliciously fragrant. They are produced in great abundance during the winter months. The exigencies of trade may justify this kind of proceeding, but it is utterly bad in a botanical sense.

Zygopetalum Perrenondi.—This is a beautiful hybrid which has been raised by Monsieur A. Peeters, nurseryman, Brussels, from Zygopetalum intermedium and Z. maxillare Gauteri. It was exhibited last week and was awarded a certificate by the Royal Horticultural Society. It bore a stout scape of five flowers, each nearly three inches across, the sepals and petals lanceolate, spreading, with recurved margins, colored green, with bands of dark brown, and the lip of the same shape as Z. Mackayi, colored intense violet-blue, with reticulations of a darker shade.

Miltonia Bleuana aurea is a variety of this remarkable hybrid, in which the flowers are four inches across and the white labellum is conspicuously marked with yellow at the base. It was shown last week by Monsieur Peeters and received a first-class certificate.

Anguloa uniflora.—An importation of this well-known Orchid, the type of the genus, in fact, was sold in London a few weeks ago under the "provisional" name of Anguloa albo-magna. Some of the plants have flowered lately and prove to be identical with the plant figured in *The Botanical Magazine*, t. 4807. The flowers are of medium size, white, tinged with rose and spotted with pale red.

Epidendrum elegantulum is a new Veitchian hybrid in which there are two parts of E. Wallisii and one of E. Endresii, the two species named having been first crossed and the product crossed again with E. Wallisii. It was shown in flower last week and obtained a first-class cer-

tificate. The flowers, which are in terminal panicles on leafy stems, are one and a half inches across, the sepals and petals ovate, concave, fleshy, dark brown, with reddish eye-like spots, and the flat, fringed lip is white and yellow, with rose-colored spots.

Cymbidium Lowio-eburneum.—Sir Trevor Lawrence has emulated Messrs. Veitch & Sons by crossing Cymbidium Lowii and C. eburneum, but reversed the parentage. The result is a hybrid of superior merit to that raised by Messrs. Veitch, the flowers of Sir Trevor's plant being ivory-white, with plane segments and a labellum conspicuously marked with a V-shaped blotch of crimson. It was shown in flower last week and was awarded a first-class certificate.

6,000 feet. I think they would thrive with you if fastened onto the south side of a tree trunk in a sheltered spot out-of-doors. I do not say that the plant would safely pass through a winter like that of 1894–95, but I think it would live outside through an average English winter. Ten to fifteen degrees of frost are often experienced where I gathered these plants, and the winds are often cold and cutting. You might make the experiment, and the result would probably be interesting."

Coniferæ.—A hand-list of Coniferæ and Taxaceæ grown in the Royal Gardens, Kew, has just been issued, and may be obtained from the curator, price threepence. It comprises 227 species, with 340 varieties, belonging to thirty

Fig. 20.—Quercus Californica, in Oregon.—See page 146.

Lælio-Cattleya Doris, a hybrid between L. harpophylla and C. Trianæ, raised simultaneously by Messrs. Veitch & Sons and Mr. Norman Cookson, is an enlarged L. harpophylla, the lip only bearing distinct evidences of the Cattleya in its size, shape and tinge of purple. It received a certificate last week.

Cœlogyne cristata.—We grow this plant either in a stove or a warm greenhouse temperature, but, according to a correspondent in Saharumpur, in the north-west provinces of India, it is found wild under conditions which seem to indicate a hardier constitution than is commonly attributed to it. He writes: "The plants I send were collected from the face of exposed rocks at Mussoorie at an elevation of

seven genera. The arrangement of the genera differs in a few particulars from that followed by Bentham and Hooker in the *Genera Plantarum*, and the species are referred to the genera under which they have been placed by the latest authorities. Dr. Masters, F.R.S., the acknowledged authority on the nomenclature of conifers in this country, has assisted in the preparation of the list, which is prefaced by an interesting historical introduction by Sir Joseph Hooker, who has always taken a peculiar interest in this group of plants, and to whose exertions, when Director at Kew, the extent and richness of the collection of Coniferæ at Kew is largely due. In 1877 Sir Joseph's interest in conifers was one of the main influences which induced

him to undertake an extensive journey in western North America, and the collection of cones, etc., which he then formed is now in the Kew Museum. The synonymy of Coniferæ revealed by this list is appalling. Cultivators of these plants will find the list valuable.

London. *W. Watson.*

Plant Notes.

Quercus Californica.

KELLOGG'S Oak, a western representative of the Black Oaks, is found distributed throughout the length of California in the coast mountains and on the western slopes of the Sierras, and in Oregon as far north as Eugene, ten miles north of that city being its most northern limit.

This tree, a photograph of which is reproduced on page 145, is one of large dimensions and of fine, open, widely branching and symmetrical habit. The trunk is rather short, but is thick and stout. The bark is dark in color (whence the popular Oregon name, Black Oak), one and a half inches thick and rather deeply fissured longitudinally. The twigs and leaves when young are clothed with a dense white pubescence, which, however, soon disappears. The dark twigs are then smooth, straight and more slender than those of the Garry Oak, giving the tree a cleaner, more open appearance. The leaves are oval in outline, the lobes cut moderately deep, and these and the lobules pointed with delicate spines. The petioles are short and slender. The scales of the cups are thin, ovate, obtuse, flat and imbricated and light brown in color.

The wood of this tree is especially worthy of notice. The heart-wood has a reddish hue, the sap being darker and lacking the red color. The pores of the wood are numerous and slightly wavy; the medullary rays are well marked and not broad, but thick and pronounced in the tangential and radial cut. Samples of the wood, even in an unpolished state, are always admired. The tangential cut is noticeably rich in figure, and the waviness of the vessels, too, is more marked than in the radial or quartered cut. It ought to be a great favorite for decoration and interior finish. It is, however, a little-known and still less appreciated wood.

The bark is said to be rich in tannin and brings about twice as much in the market as Hemlock bark.

The tree here reproduced is an old landmark standing in Eugene, Oregon. It is something more than four feet in diameter and is known in that locality as "Henderson's Big Oak."

Pacific University, Forest Grove, Oregon. *Francis E. Lloyd.*

Andromeda Mariana.—A correspondent sends to this office a branch of Andromeda Mariana in flower, with the inquiry whether this shrub is ever planted for ornament. Whether the branch was cut from a plant forced under glass or whether it had merely been cut from a wild plant and brought into flower by placing it in water, we are not informed. We have never seen the latter method tested, although, without much doubt, this Andromeda, like many other plants whose flowers are produced on last year's wood, would open its buds if treated in this way. The flowers themselves, however produced, ought to be sufficient evidence as to the desirability of this shrub for planting, at least in certain situations. It is found along the coast as far north as Rhode Island and is abundant in the Pine region of New Jersey and in Long Island in moist and sandy situations. It is a comparatively low shrub, rarely four feet high, with shining, leathery, deciduous leaves, and large, white, waxy, bell-shaped flowers clustered along the branches of the preceding year's growth. It thrives without any special care, if planted in deep loam, particularly if some peat is mixed with it. It is one of the handsomest shrubs of a genus which includes such excellent native plants as Andromeda speciosa and the evergreen A. floribunda. In autumn its long wand-like branches retain their foliage late, when it turns to an intense scarlet color. It is said to poison sheep which browse upon its leaves, and this gives significance to its common name, the Stagger-bush.

Iris Asiatica.—This is hardly to be classed among the winter-flowering Irises, although it was flowering in a cool house with Mr. Gerard a few days ago. It is an attractive plant, akin to I. pallida, but inferior to good forms of this species in the size of its flower and in distinction of habit. The flower is of fair size, dark purple, and under artificial light shows a reddish hue. There is a quite distinct blotch of darker purple on the lip of falls. The scapes are four-flowered. In a cool house, however, there are no winter-flowering Irises as satisfactory as I. stylosa and its varieties. If well cared for during the summer they make strong growths and flower continuously during the winter under any protection secure from frosts. The plants are fairly hardy in this latitude, but the usual weather conditions are too rigorous to admit of good flowers in the open. This plant seems a favorite in the open in southern England, but the latitude of Richmond, or possibly Washington, would probably be as far north as they could be grown with any satisfactory result in the garden.

Kniphofia pauciflora.—This is a distinct species of what is generally a showy genus, and it will flower very early with little encouragement but only a botanist would recognize this as one of the Red-hot Poker plants. The tubular flowers, slightly less than one inch long, are borne sparsely on one side and at the top of a thin scape some eighteen inches long. They are of a light straw-color and pretty, rather than striking. The leaves are very narrow and deeply channeled.

Cultural Department.

The Earliest Spring Flowers.

WITH the flowering of the first Daffodils one feels that the spring has fairly arrived now at the end of March. Nature has broken no promises this season, for the weather has been uniformly bad, for the garden at least, as the temperature has been at all times low, with little chance for the winter-flowering plants to progress, and only a rare flurry of snow to protect green foliage.

The impatient Snowdrops even have been discouraged this year, and though they have been peeping since the holidays they have waited for March. Some belated snow, melting quickly, with less rigorous weather, has reminded the alpine bulbs that it was time to waken; and for the last fortnight the garden has been rapidly gaining cheerful bits of color. Of course, those early plants will vary in their flowering time very much from year to year as the weather permits, but there are other influences also at work each year. For instance, the vigor of a plant at flowering time depends on the growth made after flowering the previous year, and a weak growth one year will retard its flowering time the year following.

A number of new Snowdrops received from Mr. Whittall, who had collected them in different locations, are not found to be specially distinct from those already known, but those which last year were found in flower on Mount Taurus in May were here among the earliest to open. Chionodoxas are becoming plentiful, but the brightest blue effect in the garden is made by the early Squills, Scilla Sibirica, which also came from Asia. These Scillas are not only earlier than the typical S. Sibirica, so long grown in gardens, but they are brighter in color. They are now (April 1st) in full flower, though the ordinary ones are scarcely started. The white variety, however, is rapidly advancing, and is rather earlier than the white form of S. bifolia. Yellow Crocuses, C. aureus, have been flowering bravely for some weeks, and very cheerful their color is. Early spring and late fall Crocuses suffer many persecutions from the weather, which they do not withstand very well, and natural selection does not seem to have been very active among them.

At present Iris Rosenbachiana is the handsomest individual flower in the garden. This hardy plant from Bokhara has the largest flowers of any of the early Irises, and they are somewhat variable in color, the ones now open being a rich vinous red. A few Irises of the Reticulata class have flowered, the dainty I. Kolpakowskyana and a nice form of I. Krelagii, and there are a few collected ones in the corner, which, aside from being wildings, are interesting since they came from Mrs.

Barnum, of Harpoot, only a few weeks before the troubles broke over the American Mission.

The forerunner of the Daffodils is Narcissus minimus, which is as bright as it is dainty. It is a very miniature Ajax, quite small enough to serve in the corsage of a fairy.

Elizabeth, N. J. *J. N. Gerard.*

Orchids at Langwater Gardens.

PLEUROTHALLIS ROEZLII was among many new and rare Orchids in bloom recently at the gardens of Mrs. F. L. Ames, North Easton, Massachusetts. It is really more curious than beautiful, and valuable rather on account of its rarity. The Langwater plant is probably the finest specimen in cultivation. It bears eighteen spreading scapes of pendent, irregularly globose flowers of deep wine-color. It is here grown in a basket in the Masdevallia house, and, apparently, is quite at home. It has also been noted by Mr. Watson, in his London letter (GARDEN AND FOREST, No. 420).

The Masdevallias in this collection have frequently been referred to in GARDEN AND FOREST. Seedlings and hybrids multiply with great spontaneity. A small specimen of the strangely curious M. muscosa is in a six-inch pan, the plant being not more than ten inches in diameter and six inches high, but it carries thirty-six hairy scapes of yellow flowers. It is chiefly interesting on account of the sensitive character of the lip. Watson, in his book on Orchids, says: "At Kew, in 1887, a small plant of M. muscosa flowered for the first time in England. It had short thick leaves, erect, hairy flower-scapes and flowers half an inch across; the lip was hinged and had a concave blade one-fourth of an inch long, in the middle of which was a raised yellow disk. On touching this disk the lip moved upward and closed with a jerk, and it was found that any small insect on alighting on the lip was at once trapped and held for twenty minutes, when the lip opened again. Charles Darwin, who regretted never having seen a sensitive Orchid, would have been delighted had he seen this."

It is difficult to trace the parentage of many of the natural hybrids originating here. What they are may be generally surmised. The majority are evidently between M. Lindeni, M. ignea and M. Harryana. Rebecca, named in honor of Miss Ames, is a brilliant orange, shaded with crimson. Another unnamed kind is a most beautiful violet-purple. M. Lowii is very rare. It is remarkable for the violet papillæ covering three-fourths of the length of the sepals, their bases being bronzy, and tips, or tails, white. In M. Hincksiana the sepals are yellow, deepening toward the tips; the centre of the flower is white. This lovely hybrid is a cross between M. ignea and M. Tovariensis. The flowers of M. bella are most curiously formed; the long tails cross over the triangular-shaped flowers in such a way as to suggest some large insects; and flowering as they do, from willow baskets suspended above one's head, the effect is heightened. The specific title would suggest beauty, but in this respect the flowers were not to be compared with many others.

Wellesley, Mass. *T. D. Hatfield.*

Bomareas.

THESE remarkable twining plants are nearly related to the Alstrœmerias. They are natives of the mountain regions of Central America, Colombia and Peru, and have been known in gardens some twenty years or more. As yet they are rare in America, although especially adapted to a bright, sunny climate like ours. They thrive well in moderately warm greenhouses in the north, and are probably quite hardy farther south. All are very floriferous and deserve to be grown for the sake of their large, gorgeously spotted flowers, which are generally very brightly colored. Some flower in early spring, others throughout the summer, the flowers being produced in large umbels or cymes on terminal or lateral shoots. The leaves are more or less lanceolate, with parallel veins. The stem is slender and grows from a fleshy root to a height of twelve or fifteen feet, and even higher under favorable conditions. Among the several species cultivated the most common, as well as the most attractive, are the following: Bomarea Carderi, a magnificent Colombian species, with broadly lanceolate leaves six or eight inches long and very large bell-shaped flowers on long peduncles, collected in loose, many-flowered pendulous cymes. The three outer segments of the perianth are rose-colored and three inner ones paler, and all spotted near the apex with numerous dark purple spots; B. Schuttleworthii, another very showy species, with flowers two inches long in drooping umbels, with the outer segments orange-scarlet and inner ones yellow, all greenish and spotted near the apex; B. oligantha, with very much smaller but very attractive flowers, about an inch long, funnel-shaped, with the three outer segments sepal-like, reddish green and smaller than the inner ones, which are broader, tawny yellow and but faintly spotted.

The Bomareas delight in a rich, fibrous soil and require plenty of water during the growing season, which commences early in spring. Late in fall the stems are cut down to the ground and the roots are kept in the soil in a dry state. They do best planted out in an open and sunny position in a cool conservatory or greenhouse where they may have plenty of air in summer. The propagation is best effected by means of seeds, which germinate quite easily when fresh, and if sown in shallow pans in a warm propagation-house, but as this method is somewhat slow they may also be increased by a careful division of the fleshy roots.

Newark, N. J. *N. J. Rose.*

Seasonable Flowers in the Cool Greenhouse.

IT is not difficult to have cool greenhouses attractive at this season, even where but few rare and expensive plants are available. Just now our own houses are gay with Cinerarias, and the individual blooms seem to increase in size each year, some of them being three and a half inches across. Primula Sinensis is nearly over, having been flowering since the second week in December. P. obconica is at its best, and our largest plants, in eight-inch pots, each carry from fifty to seventy flower-scapes. P. floribunda, a pretty little yellow species from the western Himalayas, deserves to be grown more extensively. We sow our Primula seed early in April, and as soon as the seedlings are large enough they are pricked off into boxes four inches deep, with a soil composed principally of leaf-mold. They remain in these boxes in the greenhouse, or in a well-shaded frame, till August, when they are potted. They grow very rapidly during the fall and are shifted on as they require it into larger pots. Treated in this way they are very little trouble and very satisfactory. The later species of Narcissus are now in flower, and one of the very best is the variety of N. bicolor, commonly called Grandee. The perianth segments are a pale sulphur color, which contrasts beautifully with the rich golden corona. The flowers are about three and a half inches in diameter, and each bulb produces two and often three. Of course, the fragrant Poet's Narcissus is good for late bloom. Ixias and Ornithogalums are just coming into flower. English Daisies, in four-inch pots, are useful for the front edge of the stages. The varieties Longfellow (pink) and Snowball (white) are very good when they come double, but a great many seedlings are apt to come single or semi-double. Myosotis alpestris, besides being a good spring bedding plant, does well in a cool greenhouse. Schizanthus pinnatus has been flowering profusely for the last two months; its beautiful sprays of white and lavender-colored flowers last a long time when cut. Calendula pluvialis, the Cape Marigold, is another annual which does well in the greenhouse, but it unfortunately closes its flowers early in the afternoon. Aquilegias are useful where a varied supply of flowers has to be kept up. Last September we lifted some clumps of A. Canadensis and A. atrata; these were potted and kept in a cold frame till the end of January, when they were brought into the greenhouse, where for the past three weeks they have made a fine show. The double-flowered pink Lychnis flos-cuculi is just now at its best.

In the warm temperate greenhouse stocky plants of Fuschia speciosa and Rose of Castile, in five-inch pots, are flowering profusely. Torenia Fournieri and Impatiens Sultani have been flowering all winter and are very beautiful, though of no use for cutting. Swainsonia galegifolia, with its beautiful sprays of pea-shaped flowers and pinnate foliage, is one of the best winter-flowering plants we have, and Abutilon, Golden Bells, is proving an excellent free-blooming variety. Some cuttings of a double-flowered form of Tropæolum Lobbianum, received here last fall, are now in flower, and though to many the flowers are not as attractive as the single kind, it is the most profuse blooming Tropæolum I have ever met with.

Botanic Garden, Northampton, Mass. *Edward J. Canning.*

Clianthus Dampieri.—It is thirty years since this plant was first brought from the deserts of Australia, and, though extremely beautiful as well as interesting, many persons have never seen it in flower. Its common name, the Glory Pea, is a translation of its generic name, and since it belongs to the Pea family and bears flowers of the brightest scarlet it well deserves the title. It is also called at times the Parrot's Beak, from its sharply curved and pointed keel. The lower part of

the standard carries an almost black-purple boss. These handsome flowers are borne on five-angled stems proceeding from the axils of the leaves in clusters of four or five, and they are individually four inches long by one inch wide. The pinnate foliage is pale green, covered with a silvery down. The plants should be propagated by seed sown singly in four or five inch pots, which should be well drained. The soil is better if prepared of about equal mixtures of loam, leaf-mold and sand, with a little charcoal to prevent its becoming sour before the roots have filled the pots. If sown in smaller pots the roots are liable to be hurt in transplanting, and any injury happening to them while young means sure death to the plant. Neglect of caution in this particular has given the Glory Pea the reputation of being difficult to cultivate, but when treated as recommended above it is not a very untractable plant. Seeds sown at this season will germinate in a temperature of sixty degrees, and if properly cared for the plants flower well in the greenhouse late in the following winter or spring.

Northampton, Mass. *E. J. C.*

Hippeastrum Ackermanni.—The Hippeastrums are especially adapted to the American climate. Whether grown indoors as conservatory or house plants, or in the open ground in the southern states, they grow and flower very profusely. The above old-fashioned species is one of the most common plants now seen in windows and apartments. The plants are generally large and robust, with two or three scapes, each bearing several very large and showy crimson flowers, which last in perfect beauty for several weeks, if kept in a moderately cool place. The culture of this species is so simple that anybody ought to succeed in growing it with very moderate attentions. The growing season begins early in spring or late in winter, and from that time until September abundant watering is necessary. Afterward water should be given more sparingly, and in the bright autumn months the bulbs will ripen thoroughly. The leaves should not be allowed to die for want of water, even when stored away beneath the benches in a greenhouse. H. Johnsoni is a less common species with a white band down the middle of each segment of the perianth. It is of equally easy culture. All species require a rich, fibrous soil.

Wellesley, Mass. *T. D. H.*

Hardiness of Aspidistra lurida.—Some remarks on Aspidistra lurida which I recently saw in Garden and Forest remind me to say that it is quite hardy in Philadelphia. Your correspondent, Mr. E. J. Canning, found it hardy when living in this vicinity, and I have recently seen a large number of plants used in a narrow border, close to a building, and they have withstood the winter perfectly. It may be hardy much farther north than this, and if so it will prove a most useful dwarf evergreen, and quite unlike any other which we now have at command. It is a Chinese plant, and possibly plants from seed gathered in the extreme northern part of its natural range might endure New England winters.

Germantown, Pa. *Joseph Meehan.*

Correspondence.

Nurseries at Bay Ridge, New York.

To the Editor of Garden and Forest:

Sir,—A visit to the nurseries at Bay Ridge, an outlying suburb of Brooklyn on the Bay shore, cannot fail to be interesting to the flower lover and highly instructive to the practical cultivator at this season. Here, in the three large establishments of John Dean, James Weir's Sons and John M. Keller, seventy-five glass houses were last week closely filled with Easter plants. Many of these structures are 200 feet long, a few stretching 230 feet, with a span of twenty-two feet. As much as 60,000 square feet of glass and four acres of ground, perhaps, is in use in each one of the places. The enormous trade in cut flowers and plants in cities the year through can scarcely be conceived by the occasional buyer of a corsage bouquet or a plant in the holiday season. At Weirs', for example, there are twenty-five greenhouses. For the Easter trade these were largely planted with Lilies, as many as 2,600 pots of this seasonable plant extending 200 feet through the middle of several of the houses. A house of equal length was a continuous bed of the delicate Maiden-hair Fern, Adiantum cuneatum, the plants in five-inch pots. Another was given up to climbing Asparagus, one to Smilax, another to Palms, Araucarias, Rubber-plants and the like, and the most brilliant effect of all was a house of General Grant Geraniums, some 2,200 of the plants being in full glow. Besides 30,000 bulbs of the Bermuda Lily in different stages of forcing, some being brought on for use as late as Decoration Day, there were immense collections of Azaleas and Hydrangeas, at least 1,000 plants of each being covered with bloom, the latter very fully flowered and with unusually thrifty foliage. On the side benches in these houses were bedding-plants for the spring-planting trade, as Geraniums, Coleus, Ageratum, Vinca, Lantanas and rosy stretches of Alternanthera. One house was given over to propagating. Marguerites occupied 100 feet of space, and Spiræas as much more, while there were 5,000 Hyacinths forced into flower. This great establishment is exclusively devoted to plants for the Easter trade, to spring-bedding plants and Chrysanthemums. An idea of the quantity of stock handled in the city retail flower-shops may be had when it is realized that in the two stores of the Messrs. Weir in Brooklyn, besides all that is grown at Bay Ridge, as many as 5,000 to 20,000 roses alone, and some thousands of other cut flowers, are each day bought in New York City, and also during the planting season a great van-load of bedding stuff.

In each of these great nurseries Lilies were in greatest abundance, Azaleas following in numbers. In Mr. Keller's twenty-eight houses Genistas of both the two common market varieties, Cytisus racemosus and C. Canariensis, were conspicuous, and, besides the standard plants of the season, there was a large and interesting variety in which were forced Rhododendrons, Lilacs, the beautiful broad-leaved Kalmias, Andromeda speciosa, with its dainty bell-shaped white flowers, which are disguised by retail dealers under the name of Canterbury Bells; Metrosideros, the striking Bottle-brush plant, and beautifully berried plants of Ardisia crenulata. In one large space, fifty by eighty feet, obtained by the removal of the dividing-walls of three houses, seven broad benches of Hydrangeas gave an impression of rude vigor, the roof being utilized for baskets of Cattleya Trianæ and Oncidiums.

In Mr. Dean's houses Azaleas were the most striking feature. The best specimen plants were comprised in about a dozen selected sorts. Niobe, a large double white flower, with lemon tinge at the base of the upper petals and almost bud-like centre, was the best white shown, while Bernhard Andrea alba, of snowy whiteness, was also attractive. Dr. Moore was the best pink, a single flower with closely twisted centre, of clear bright solid rose-pink and satiny sheen. Another good flower of this color was Madame Van der Cruyssen, less even in tint, the upper petals distinctly splashed with crimson, and the flower more open at the centre. Empress of India was a delicate true pink with a white edge. The richest color in the entire collection was that shown in the clear rich crimson of the flowers of Le Flambeau. These were rather small, single, almost entirely free from spots, with only a faint marking of a deeper shade. Vervæneana showed immense flowers with the inner petals twisted, the outer edge of the petals white, the middle a bright splash of pink. Other notable sorts were Mademoiselle Marie Vervaene, distinct red and white stripe, resembling the Helen Keller carnation; Czar Alexandre III., brick-color, splashed with red; Souvenir du Prince Albert, clear medium shade of pink, irregularly edged with white, double, small; Hermione, rich deep pink, very double; Versicolor, a large single flower of most distinct effect, the petals greenish white, boldly striped and splashed with brick-red, this color sometimes occupying a solid quarter of the flower. Besides these, varieties having special merit were Simon Mardner, Louise Pynaert, Sakuntala, Comte de Chambord, Madame de Grevé, Antigone and Etandard de Flandre. These varieties were all free from unpleasant tints, the 3,000 plants having an average size of fifteen inches in diameter and eighteen inches in height, in six-inch pots. Of course, there were specimens of much larger size. Easter being a movable feast, the same sorts are not the best for all years, but these were the best kinds this year.

This season of trade, the largest of the entire year, preceding, as it does, the regular spring business, needs long preparation. Indeed, the work for Easter laps over more than a year. The Lily-bulbs are ordered immediately after Easter and delivered from Bermuda in July, when they are at once potted and placed out-of-doors; in the fall, after the Chrysanthemums are removed from the houses and severe frost is threatened, the Lilies are brought indoors and kept in a night temperature of forty to forty-five degrees until Christmas or New Year's, when they are urged forward in a higher temperature. One bulb is planted in a six-inch pot, and beautiful effects are produced by grouping five or six plants in twelve-inch pots. These masses are three to four feet high and carry thirty-five to forty flowers, the rich foliage being almost as strikingly decorative as the flowers. The Bermuda Lily is grown in preference to Lilium longiflorum, because its flowers are more easily produced in abundance under less favorable treatment, and they last longer. This Lily is sometimes called

soft, not because this is its real character, but because it has been forced too hard. L. longiflorum fails entirely under too severe urging, the buds coming blind, or not appearing at all. The two sorts potted on the same day will show flowers on the taller-growing and more spreading Bermuda Lily by Thanksgiving Day, while the older longiflorum, of more sturdy and upright habit, cannot be flowered before February. An important and exacting detail of cultivation is the examination of every lily as soon as it expands, for the removal of the pollen before it is ripened and has been shed and made its yellow stain on the pure white flowers. This is done by hand and requires going over the stock once and even twice a day. It may be worth while saying that no Ascension Lilies or Callas were seen in any of these collections. While the regular stock of Lilies is each year produced from freshly imported bulbs, in some of these large nurseries the Lily plants, when returned, are dumped out-of-doors and picked over later in the season. The best bulbs are planted in July or August in frames and protected over winter. These plants bear, during the next spring, one or two flowers each, for the six to ten of the first efflorescence, the blossoms being useful for funeral orders.

The stock of Azaleas is imported from Belgium in October, and these, with the Lilies, Spiræas, Genistas, Hydrangeas and other Easter plants, are started indoors at the same time and under the same general conditions. They are all carried along in gentle heat, Lilies being pushed forward about the beginning of Lent, the general idea being that it takes six weeks to get them into bloom from the forming of the bud. Azaleas, as a rule, need a shorter time to be brought into flower, though there is considerable difference in this respect in different varieties. Hydrangeas, which are propagated from cuttings made at the beginning of March a year ago, need longer forcing, and are started on in December. These are usually planted out in the open ground in summer, but Messrs. Weir last year kept them in pots and plunged them. The plants of Genistas are carried over from year to year, and when new ones are propagated it is from cuttings which require several years to bring them into flowering condition. Genistas are not often sold, but loaned for the Easter season. When returned to the cultivator they are repotted and pruned and plunged out-of-doors until autumn. The stock of Spiræas comes from Belgium, and its treatment is not unlike that of the other plants noted. Besides the old Spiræa, Astilbe Japonica, and the increasingly popular A. compacta, there are this year some of the old-fashioned Spiræa palmata, with bright rose-colored trusses and handsome, deeply pinnate raspberry-like foliage. Bulbous plants, as Narcissus, Tulips and Hyacinths, are, of course, profusely grown in pots and pans for dressing up in baskets, and many cut blooms are sent to the stores.

After the stock is sufficiently advanced the temperature of the houses is reduced from the forcing heat of sixty-five or seventy degrees to fifty degrees, to harden off the plants. On Monday following Palm Sunday the work of removal of the plants begins, and during frosty weather the carting over muddy roads in immense padded wagons and heated vans is of itself an enormous undertaking.

New York. *M. B. C.*

Protection for a Public Interest.

To the Editor of Garden and Forest:

Sir,—The bicycle has been taking people into the country of late and setting them in touch with nature, teaching them what they have never known before—that a landscape could be beautiful or interesting or inspiring. As the exuberant wheelman, who has just pulled himself up the hill, lifts his feet from the pedals and comfortably settles himself for a coast down the other side, he is peculiarly susceptible to the view from that hill-top. If he finds the coasting good he is likely to come to that hill again; and it is not long before he feels, and justly feels, that he has a right to the enjoyment of that prospect, with all its inspiration and refreshment. Imagine his feelings, then, when some day, as he pauses out of breath for his usual eye-feast, he finds a huge board curtain drawn across the landscape, and on it a screaming advertisement of the virtues of somebody's "germ destroyer." He knows that he has been robbed of what is his by right. If a painted landscape by Turner or Corot has a high money value, why shall we not estimate the real thing as worth something, and why should not its wanton destruction be counted a crime? If some man in the pursuit of his private business should blow up the Smithsonian Institution or an art museum he would meet with prompt punishment, yet the anarchist who paints signs does the same thing all summer long in the rural and suburban districts, and never hears a whisper of reproof.

Why not legislate against such an evil? It is a mistake to suppose that the venders themselves delight in this method of advertising. They are driven to it, perhaps, by competition, but by a competition which they would gladly evade. The advertising and bill-posting agency preys upon the dealers on one side, and inflicts itself on the public on the other. The agency alone would have to suffer if this unpleasant species of advertising were suppressed.

Could legislation reach this evil? Probably. The most feasible plan is, perhaps, that proposed in the Rural Advertisements Bill, which was brought before the English Parliament at its last session. The proposition was to tax all publicly displayed advertisements by the square foot. Such a tax could be easily levied and apportioned, and there would be no one but the bill-poster to lament if this tariff should be made prohibitory. This would be protection in a proper sense—protection in the enjoyment of one of our natural inheritances and against a nuisance. Suppose the patent-medicine man should follow me all day crying out in my ear that his nostrum was just the thing I needed to make me young again, would not the police interfere in my behalf? And why should a man assail his fellow-citizens' eyes with greater impunity than he assails their ears? All that such a plan of taxation would need anywhere would be some one to draft the bill and watch it through. Even the sign-painter would rather look for new employment than hire a lobby to defeat it.

University of Vermont. *F. A. Waugh.*

Recent Publications.

Plant Breeding. By L. H. Bailey. New York: MacMillan & Co.

This little manual belongs to the Garden Craft Series, of which the excellent Horticulturist's Rule Book was the first number. It consists of five lectures setting forth those principles of evolution upon which any successful efforts at improving domestic plants must be based. There are few subjects upon which popular knowledge is so imperfect as the origination of new vegetable forms, and a compact treatise on its essentials is evidently needed, for until the horticulturist ceases to regard each novelty as a chance phenomenon without looking at the laws under which these organisms vary, there can be no sustained progress in the development of plants in any desired direction. The first lecture in Professor Bailey's little book treats of plant-variation and its philosophy, and after stating the fact of the individuality of the seed and of the bud, the principal causes of individual differences are explained, and then the reasons for choosing certain varieties and methods of fixing these, so far as these can be fixed, are discussed. The next lecture treats of the crossing of plants with reference to their improvement, after which a few concise rules are laid down for breeding domestic varieties, with specific examples. The book concludes with a practical chapter on the structure of flowers, and especially of their essential parts, with directions for manipulating them in crossing. This last topic is carefully illustrated and shows the simple tools needed, with such plain directions for using them, that any person of ordinary skill can do the work. There is an intermediate lecture, which consists of extracts from Verlot on the varieties of ornamental plants, Carrière's account of the varieties of ornamental plants with a list of bud varieties and Focke's interesting discussion on the characteristics of crosses. This little manual, with a glossary and complete index, comprises nearly three hundred clearly printed pages, and it ought to be in the hands of every studious horticulturist. If it does nothing else it will show him the limitations of his field and warn him against attempting impossibilities. But, besides this, it will point out the directions in which he can hopefully experiment and give him the assurance that he is working in the realm of law and not in one of chance.

Notes.

Another Canna, named Austria, and of the same strain with Italia, which was described and figured in our issue for April 1st, has flowered with Mr. Pierson at Tarrytown. We have not seen the flower, but, according to reports, it is even more

beautiful than the first one. It is very large, of a perfect yellow, with pencilings of scarlet on the two inner petals so faint as to be hardly visible. Whether these flowers will have sufficient substance to be valuable for out-of-door bedding remains to be proved, but, beyond all question, they are superb when grown under glass.

The blanched tops of Swede turnips are much used as a vegetable in England, but when they are grown with offensive surroundings, as is occasionally the case in old mushroom beds, of course they are inferior. A correspondent of *The Gardeners' Chronicle* writes that untrimmed turnips placed close together in a box, the bottom of which is covered with a few inches of damp sand and then loosely covered with a mat, will soon show a small forest of shoots of perfect flavor and free from the objectionable "turnipy" taste. Many persons consider them quite superior to the best grown sea kale.

Linseed-oil meal is rich in plant-foods, and if these were rated at their cost as obtained from nitrate of soda, dissolved bone-black and muriate of potash a ton of linseed-meal would have a fertilizing value of $18.00, and would be worth for fertilizing purposes about $26.00 as the ordinary mixed fertilizers are sold. A late bulletin from the Ohio Experiment Station calls attention to the fact that inasmuch as this meal is now selling at $16.00 a ton the farmers who are buying fertilizers can get plant-food in this way at reasonable cost. The oil meal is so rich in nitrogen that fertilizers containing considerable phosphoric acid and potash should be mixed with it. By actual experiment in the Ohio station it was found that half a ton of oil meal worth $8.00 gave as much increase on an acre of Wheat as a compound commercial fertilizer which cost $11.00.

The Association for the Improvement of the Condition of the Poor in this city, under whose auspices the system of vacant-lot farming was conducted last year, have arranged for a series of lectures and object-lessons in different parts of Westchester County, of this state, with the view to the improvement in methods of horticulture and agriculture. Professors from the different agricultural colleges and experts in dairy practice and cultivation of different crops speak in the different towns on such subjects as Strawberry-culture, Apple-culture, Insects Injurious to Fruit, How to Suppress Epidemic Diseases among Plants, etc. This is practically an extension of the institute work and schools of horticulture which have been conducted in other parts of the state with signal success, and it is hoped that this new venture will prove equally helpful as an educating force.

At a late exhibition of flowers before the New York Farmers' Club, Mr. W. A. Manda, in connection with an interesting display of Orchids, delivered an address in which he said that many of these plants do not require so much moisture as is commonly supposed, watering once or twice a day and syringing the leaves daily being sufficient for them. He added, that at least twenty-five species and varieties could be grown as easily as Palms, and that a good place for some of the cool Orchids in summer is out under an Apple-tree. He named Dendrobium nobile and D. Wardianum, Cypripedium insigne, C. villosum and C. Boxalii as varieties which could be grown in any window. Even Dendrobium Calceolus, of which he had on exhibition a magnificent specimen, he pronounced a plant which could be perfectly well grown in an ordinary window. The cardinal point in Orchid culture is that they must certainly have a season of growth and a season of rest, which are in their homes seasons of rain and seasons of drought, and this indicates the proper treatment. The more growers learn about Orchids the more fresh air they give these plants.

The past week or ten days has probably been the most disastrous term of the season to fruit merchants, owing to unfavorable weather and dull sales. The prices of Mediterranean oranges fell twenty-five to fifty cents a box, and of lemons ten to twenty-five cents. California oranges were affected by this decided drop, and some car-loads of Navels were withdrawn from sale toward the end of last week on account of unsatisfactory prices. Lighter receipts of the Sicily fruits are expected, and delayed spring weather hoped for, when better prices are anticipated. Sicily oranges of the highest grade and desirable sizes sold last week to wholesale merchants for $2.50 to $3.00 a box, Valencias at $2.75 to $4.00, and California Navels at $1.20 to $3.50. A small shipment of Cayenne pineapples, large and of extra quality, came from Florida during the past fortnight. They were grown under glass, near Orlando, and sold at $1.50 apiece in the fruit shops. It is between seasons now for this fruit, the first of the new crop, some 350 barrels, being due to-day from Cuba, but there will be no regular shipment of this fruit from Havana for two weeks. The season for Bahama pineapples opens about the middle of May, and for those from Florida in June. The first pineapples from Cuba in 1894 arrived here April 10th, and last year April 15th. It is feared that shipments from Cuba will be interfered with by the war there, although importers depend upon more general forwarding from all over the island, so that any deficiency from particular sections usually depended upon will thus be made good. Even a more serious drawback is the injury to the crop by storms over a year ago, and more recently by lack of winter rains and unusually cold weather and strong winds during March, conditions which have prevailed generally throughout the West Indies, and which have made the crop late. The season for strawberries in Florida is nearing an end, and the best berries now coming from that state, smaller and less luscious than the perfect fruit of a week ago, cost forty-five cents for a quart box at retail.

The flower-stores of this city made a meagre sidewalk display, in comparison with that of former years, on the day before Easter, owing to windy and cold weather. Some of the best establishments made no outside sign of the great floral festival. Occasionally a line of pyramidal Box-trees stood out in wind-break fashion, but even double rows of these gave way before the sharp blasts. Indoors the plants were more fully and perfectly flowered than ever before in this market, though to an onlooker buyers seemed very few. Among the most beautiful and satisfying effects were plants of Lilac just beginning to open, the light and graceful thyrses singularly dainty in the unfolding of the flowers above the tender foliage. Genistas abounded in small plants a foot high for house use, and in tall, spreading specimens for church decorations. The long drooping wands of the closely flowered clear yellow Cytisus Canariensis was particularly satisfying in contrast with the muddy color and more rigid form of C. racemosus. Lilies and Azaleas were, of course, foremost in quantity, and there were Hydrangeas and Spiræas, the old form with its open and airy habit being more attractive than the newer variety known as compacta. There were strong shrubby little plants of Kalmia, bright and striking dashes of color in spikes of Metrosideros, fruiting Otaheite Oranges, plants of Andromeda speciosa, the branches thickly strung with the delicate white bells; vigorous large bushes of Acacia, the straight thick spikes often a foot and a half long and densely covered with globe-shaped feathery clear lemon flowers to within four or five inches of their extremities. Heaths were more abundant than ever before, while occasional forced specimens of Spiræa Cantoniensis and S. Thunbergii were seen, covered with snowy bloom. Cinerarias were happily missed, with their usually decided and coarse colors; although not yet common, the new dwarf Bougainvillea is proving that it is a good plant for Easter flowering. Vigorous plants of Magna Charta Roses in promising bud and dainty pots of Moss Roses were among the scarcer plants. With the usual display of bulbous flowers gay and cheery beds of Pansies were pleasing and appropriate, and an occasional pot of well-flowered Primroses came as a pleasant relief to the more striking colors. Among the less common cut flowers there were Orchids in unusual variety, considerable quantities of anthuriums, spikes of gladiolus, stems of white snapdragon and tight bunches of trailing arbutus from the south. The real phenomenon of the Easter trade in this city was the hideous attempt at decorating the flower-pots with crêpe paper and ribbons. The result was more than grotesque—it was absolutely vulgar. In one window off shades of red, blue, purple, pink and yellow, besides white and parti-colored papers, with ribbons of conflicting tints, and arranged with no reference to the colors of the flowering plants, made a most offensive display. Presumably well-grown plants were disguised in crimped and ruffled swaddling clothes, which reminded one of the attempts of a rural dressmaker to revive the full-skirt style of 1860. A few color combinations noticed were Genistas in bronzy-yellow paper, with pea-green ribbon shown against the glaucous foliage; pink Azaleas surrounded by broad ribbons of the bright shade known as American Beauty, and dull purple-flowered Rhododendrons shrouded in long gowns of white crêpe secured by belts of dull purple ribbon. Occasionally the better taste and deft hand of some woman was seen, as where long boxes containing single yellow narcissus with rich blue-green foliage were simply covered with a band of yellow paper and a spare use of yellow ribbon of the same shade to match the flowers. Carnations were in meagre supply, one dealer, for example, being able to secure but 7,000 flowers to fill orders amounting to 10,000. Prices for these flowers ranged from $1.00 to $2.00 a dozen for the ordinary sorts, $3.00 being asked for the popular Helen Keller.